

WHAT IS CLAIMED IS:

1 1. A method for storing streaming media data in a cache memory
2 comprises:
3 receiving the streaming media data from a streaming media server, the
4 streaming media data comprising a series of packets of media data, the packets of media data
5 including header data and payload data;
6 separating the header data from payload data;
7 storing a portion of the header data in a session data object in the cache
8 memory; and
9 storing the payload data in a first plurality of data objects in the cache
10 memory, wherein each data object of the first plurality of data objects is directly addressable
11 in the cache memory via an associated object handle, and wherein each data object of the first
12 plurality of data objects stores a portion of the payload data.

1 2. The method of claim 1
2 wherein a data object of the first plurality of data objects comprises an object
3 meta data portion and a plurality of data chunks;
4 wherein storing the payload data in the first plurality of data objects in the
5 cache memory further comprises:
6 storing a number representing a total number of data chunks in the
7 plurality of data chunks, in the object meta data portion; and
8 storing a subset portion of payload data from a portion of payload data,
9 in the plurality of data chunks.

1 3. The method of claim 2
2 wherein a data chunk of the plurality of data chunks comprises a chunk meta
3 data portion, packet meta data portion, and a plurality of packet payloads,
4 wherein storing a subset portion of payload data from the portion of payload
5 data, further comprises:
6 storing a number representing the total number of packet payloads in
7 the plurality of packet payloads, in the chunk meta data portion;
8 storing a presentation time for each packet payload, in the packet meta
9 data portion, and

10 storing a subgroup of payload data from the subset portion of payload
11 data, in the plurality of packet payloads.

1 4. The method of claim 1 wherein the streaming media data are formatted
2 for playing on players selected from the group comprising: RealNetworks Real Player -
3 compatible, Microsoft Media Player –compatible, Apple QuickTime player – compatible.

1 5. The method of claim 1 wherein receiving the streaming media data
2 from the streaming media server comprises receiving the streaming media data from the
3 streaming media server via a port selected from the group: 554, 2001, 1755, 80.

1 6. The method of claim 3 wherein the portion of the payload data are
2 associated with a first logical segment of the streaming media data.

1 7. The method of claim 1 wherein the method further comprises:
2 storing another portion of the header data into the first plurality of data objects
3 in the cache memory.

1 8. A method for serving streaming media data from a cache memory
2 comprises:
3 retrieving payload data from a first plurality of data objects in the cache
4 memory, wherein each data object of the first plurality of data objects is addressable in the
5 cache memory via an associated object handle, and wherein each data object of the first
6 plurality of data objects stores a portion of the payload data;
7 retrieving header data from a session data object in the cache memory;
8 combining the header data and the payload data to form a stream of media
9 data; and
10 serving the stream of media data to a client.

1 9. The method of claim 8
2 wherein a data object of the first plurality of data objects comprises an object
3 meta data portion and a plurality of data chunks;
4 wherein retrieving payload data from the first plurality of data objects in the
5 cache memory further comprises:
6 retrieving a number representing a total number of data chunks in the
7 plurality of data chunks from the object meta data portion; and

8 retrieving a subset portion of payload data from a portion of the
9 payload data from the plurality of data chunks.

1 10. The method of claim 9
2 wherein a data chunk of the plurality of data chunks comprises a chunk meta
3 data portion, packet meta data portion, and a plurality of packet payloads,
4 wherein retrieving the subset portion of the payload data from the portion of
5 the payload data, further comprises:
6 retrieving a number representing the total number of packet payloads
7 in the plurality of packet payloads from the chunk meta data portion;
8 retrieving a presentation time for each packet payload from the packet
9 meta data portion, and
10 retrieving a subgroup of payload data from a subset portion of payload
11 data from the plurality of packet payloads.

1 11. The method of claim 8 wherein the stream of media data are formatted
2 for playing on players selected from the group comprising: RealNetworks Real Player -
3 compatible, Microsoft Media Player-compatible, Apple QuickTime player - compatible.

1 12. The method of claim 8 wherein serving the stream of media data to the
2 client comprises serving the streaming media data via a port selected from the group: 554,
3 2001, 1755, 80.

1 13. The method of claim 10 wherein the portion of the payload data are
2 associated with a duration of less than or equal to approximately: 5 seconds, 10 seconds, 30
3 seconds, 1 minute.

1 14. The method of claim 8 wherein the method further comprises:
2 storing another portion of the header data into the first plurality of data objects
3 in the cache.

1 15. A computer program product for a computer system including a
2 processor and a memory includes:
3 code that directs the processor to receive streaming media data from a
4 streaming media server, the streaming media data comprising a series of packets of media
5 data, the packets of media data including header data and payload data;

code that directs the processor to separate the header data from payload data;
code that directs the processor to store a portion of the header data in a session data object in the memory; and
code that directs the processor to store the payload data in a first plurality of data objects in the memory, wherein each data object of the first plurality of data objects is directly addressable by the processor in the memory via an associated object handle, and wherein each data object of the first plurality of data objects stores a portion of the payload data;
wherein the codes reside on a tangible media.

16. The computer program product of claim 15
wherein a data object of the first plurality of data objects comprises an object meta data portion and a plurality of data chunks;
wherein code that directs the processor to store the payload data in the first plurality of data objects in the cache memory further comprises:
code that directs the processor to store in the object meta data portion, a number representing a total number of data chunks in the plurality of data chunks; and
code that directs the processor to store in the plurality of data chunks, a subset portion of payload data from a portion of payload data.

17. The computer program product of claim 16
wherein a data chunk of the plurality of data chunks comprises a chunk meta data portion, packet meta data portion, and a plurality of packet payloads,
wherein code that directs the processor to store the subset portion of payload data from the portion of payload data, further comprises:
code that directs the processor to store in the chunk meta data portion, a number representing the total number of packet payloads in the plurality of packet payloads,
code that directs the processor to store in the packet meta data portion, a presentation time for each packet payload; and
code that directs the processor to store in the plurality of packet payloads, a subgroup of payload data from a subset portion of payload data.

1 18. The computer program product of claim 17 wherein the plurality of
2 data chunks each have an associated payload data duration of less than or equal to
3 approximately a time selected from the group: 10 seconds, 30 seconds, 1 minute.

1 19. The computer program product of claim 17 wherein the plurality of
2 data chunks each have a size less than or equal to approximately a size selected from the
3 group: 64 Kbytes, 128 Kbytes, 512 Kbytes, 1 Mbyte.

1 20. The computer program product of claim 15 wherein a format for the
2 streaming media data are selected from the group comprising: Microsoft Media Streaming -
3 compatible, Real Time Streaming Protocol –compatible, RealNetworks – compatible,
4 QuickTime-compatible.

1 21. A cache memory configured to provide streaming media data, the
2 cache memory comprising:

3 a session data file storing header data, wherein the header data are selected
4 from the group: encoding scheme, duration;

5 a plurality of data objects storing payload data, wherein each data object of the
6 first plurality of data objects is addressable in the cache memory via an associated object
7 handle, and wherein each data object of the first plurality of data objects stores a portion of
8 the payload data;

9 code that directs the processor to retrieve header data from the session data
10 object in the cache memory;

11 code that directs the processor to retrieve payload data from the plurality of
12 data objects in the cache memory;

13 code that directs the processor to combine the header data and the payload
14 data to form a stream of media data; and

15 code that directs the processor to serve the stream of media data to a client.

1 22. The cache memory of claim 21

2 wherein a data object from the plurality of data objects comprises an object
3 meta data portion and a plurality of data chunks,

4 wherein the object meta data portion stores a number representing a total
5 number of data chunks in the plurality of data chunks, and

6 wherein each data chunk of the plurality data chunks stores a subset of the
7 payload data.

1 23. The cache memory of claim 22
2 wherein a data chunk from the plurality of data chunks comprises a chunk
3 meta data portion, a packet meta data portion, and a plurality of packet payloads,
4 wherein the chunk meta data portion stores a number representing a total
5 number of packet payloads in the plurality of packet payloads,
6 wherein the packet meta data portion stores a presentation time for each packet
7 payload, and
8 wherein each of the plurality of packet payloads stores only a smaller subset of
9 the payload data.

1 24. The cache memory of claim 21 wherein each data object has an
2 associated presentation time.

1 25. The cache memory of claim 21 wherein the stream of media data has a
2 format selected from the group: Microsoft Media Streaming -compatible, Real Time
3 Streaming Protocol -compatible, RealNetworks - compatible, QuickTime-compatible.

1 26. The cache memory of claim 21 wherein code that directs the processor
2 to serve the stream of media data to a client comprises code that directs the processor to serve
3 the stream of media data to a client on a port selected from the group: 554, 2001, 1755, 80.

1 27. The cache memory of claim 21 wherein object handle comprises an
2 object pointer.

1 28. A method for a cache memory comprises:
2 storing at least a portion of a stream of media data in a plurality of data
3 objects, the plurality of data objects including a first data object and a second data object, and
4 wherein each data object of the plurality of data objects is stored in the cache memory and
5 associated with a filename;
6 determining that the first data object of the plurality of data objects can be
7 flushed from the cache memory;
8 flushing the first data object from the cache memory while maintaining the
9 second data object in the cache memory.

1 29. The method of claim 28 wherein the portion of the stream of media
2 data comprises less than all of the stream of media data.

1 30. The method of claim 29 further comprising before flushing the first
2 data object from the cache memory:
3 determining that the cache memory needs to store at least a portion of a second
4 stream of media data; and
5 storing the portion of the second stream of media data in another plurality of
6 data objects, wherein each data object of the another plurality of data objects is stored in the
7 cache memory and associated with a filename.

1 31. The method of claim 29 wherein flushing the first data object
2 comprises deleting a file handle associated with the filename.

1 32. The method of claim 29 wherein determining that the first data object
2 of the plurality of data objects can be flushed comprises:
3 determining an indicia for each of the data objects in the plurality of data
4 objects; and
5 determining that the first data object from the first plurality of data objects has
6 a indicia lower than indicia of other data objects from the first plurality of data objects.

1 33. The method of claim 32 wherein the indicia comprises data selected
2 from the class: a number of times the first data object has been requested, a priority level, a
3 time of last request.

1 34. The method of claim 29 further comprising serving the second data
2 object from the cache memory to a client system.

1 35. The method of claim 34 further comprises:
2 re-storing the first data object in the cache memory.